

ABSTRACT

METHOD FOR MANUFACTURING A PERPENDICULAR WRITE HEAD

A method for manufacturing a write head having a small write pole tip that emits magnetic flux sufficient for effective perpendicular recording. The method creates a leading edge taper (LET) between the write pole tip and a magnetic flux guide to create a sufficient magnetic flux in the write pole. The LET is fabricated by ion milling away a sacrificial striated material whose layers have different rates of ion milling. The top layer of material thus mills away faster than lower layers, creating the required tapering of a negative mold. An endpoint material stops the milling. The LET magnetic material is then sputtered into the negative mold, resulting in a well defined taper of magnetic flux shaping material extending the magnetic flux guide to the write pole tip, such that the write pole tip is able to emit sufficient magnetic flux for perpendicular recording.